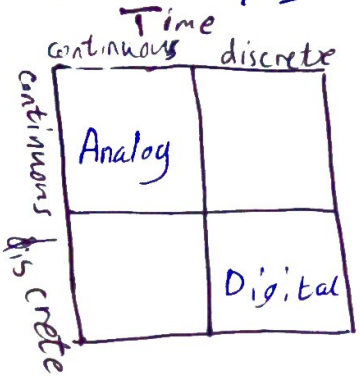
DSP

5/10/2015 الاثنين

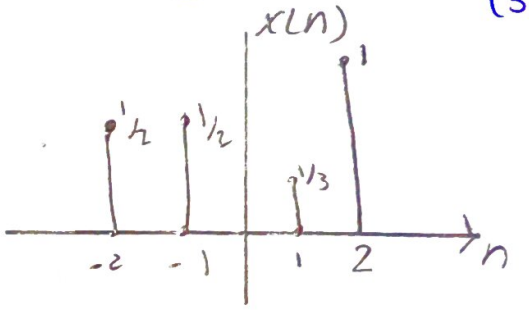


--- >> Sheet 1

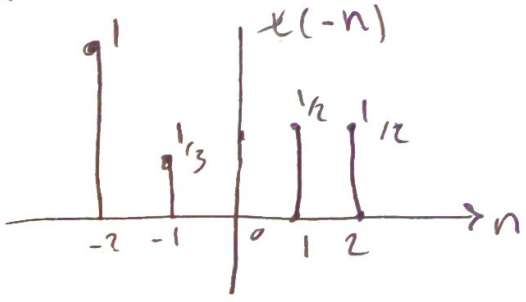
* operations on Signal :-
+ Representation
+ shifting
+ folding
+ Adding
+ Multiplication

① Ex: $x(n) = \{\frac{1}{2}, \frac{1}{2}, \underset{\uparrow}{0}, \frac{1}{3}, 1\}$

① Fold ② Swift (delay) (3)

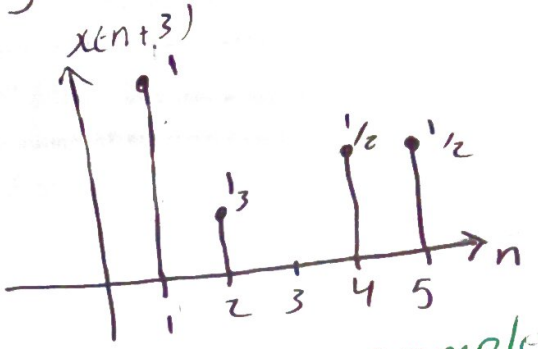


* fold



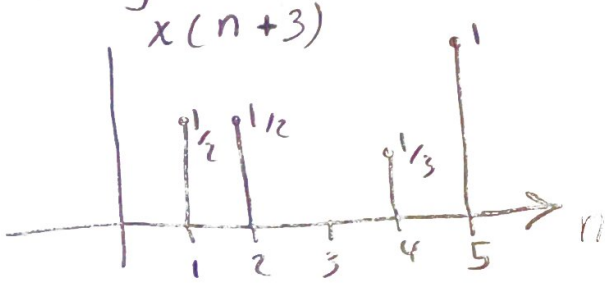
المحاضرة ①

* Delay by (3)

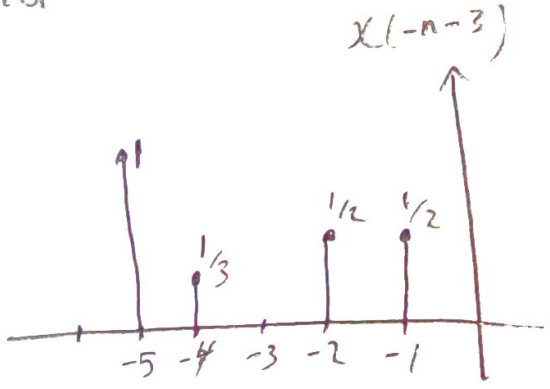


② Ex: Same previous example but
① delay by (3)
② fold

* Delay



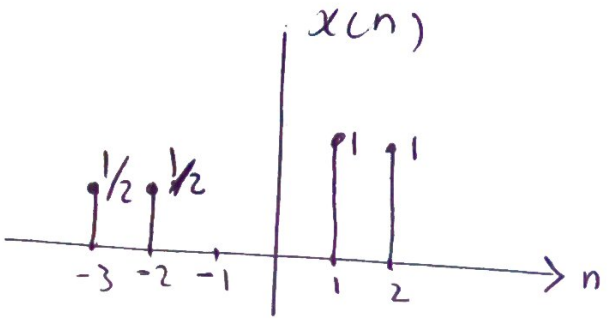
* fold

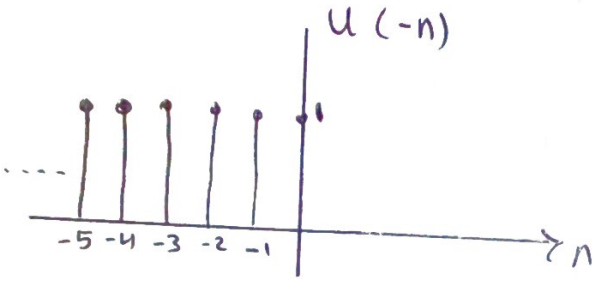


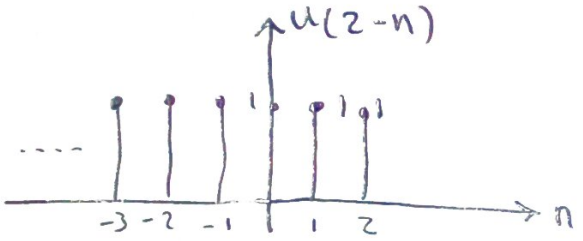
fold then delay
≠
delay then fold ①

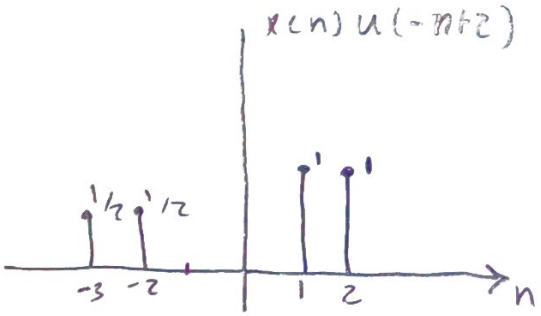
③ Ex: $x(n) = \{1/2, 1/2, 0, \underset{\uparrow}{0}, 1, 1\}$

Find $x(n)u(2-n)$



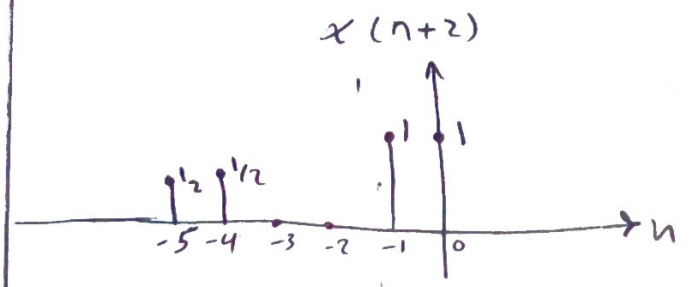






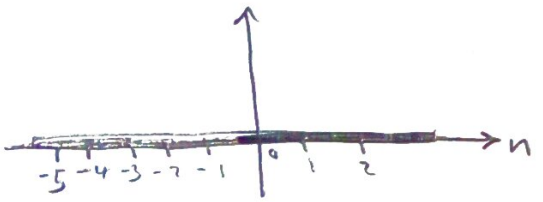
④ Previous but

Find $x(n+2)\delta(n-2)$



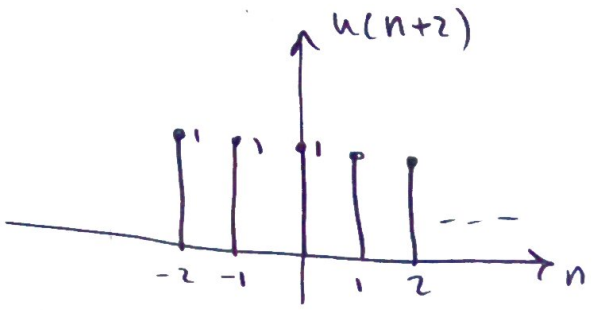
$\delta(n-2)$

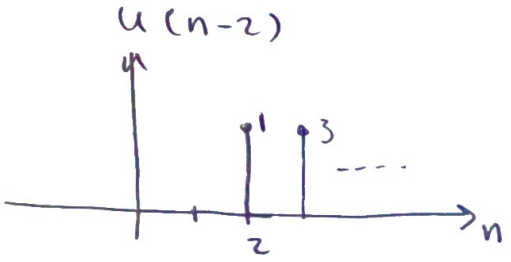
$x(n+2)\delta(n-2)$



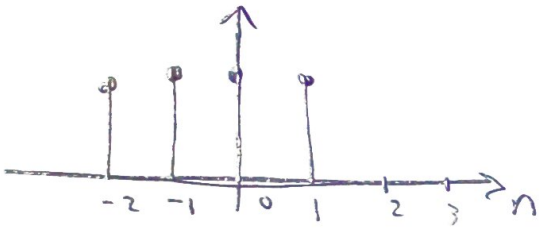
⟹ Turn over

(5) Ex $x(n)=u(n+2)-u(n-2)$

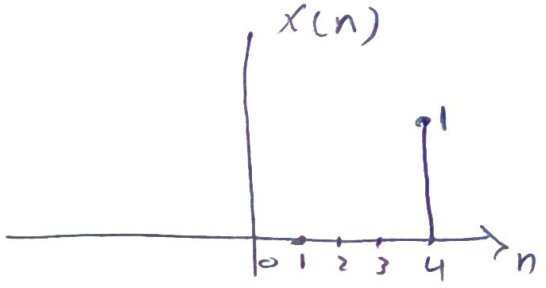




$u(n+2)-u(n-2)$

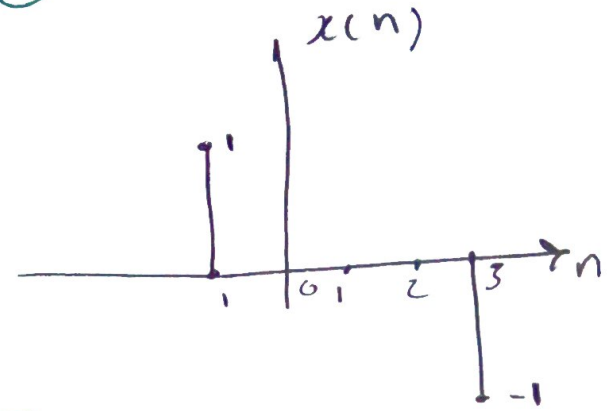


(6) $x(n)=u(n-2)\,\delta(n-4)$



$x(n)=\{0,0,0,0,1\}$

(7) $x(n)=\delta(n+1)-\delta(n-$



(8) $x(n)=u(n)+r(n-2)$
$-r(n-5)-r(n-8)$
$+r(n-11)$

(9) $x(n)\{2,1,1/2,1/4,1/8\}$

find: $x(-n-2)$
$x(n-2)$
$x(n+2)$
$x(-n+2)$

8, 9 Report